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AREA	1332591
AREAS	615009
NETWORK	272930
NETWORKS	106836
(2 AND ((STORAGE ADJ1 AREA) ADJ1 NETWORK)).USPT.	6
(L2 AND (STORAGE ADJ1 AREA ADJ1 NETWORK)).USPT.	6

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US Patents Full-Text Database
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JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L3

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Search History

DATE: Thursday, July 08, 2004 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT; PLUR=YES; OP=ADJ			
L3	L2 and (storage adj1 area adj1 network)	6	L3
L2	(encapsulat$ with scsi with protocol)	18	L2
L1	(encapsulat$ with scsi with protocol).ab.	0	L1

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 10 of 18 returned.

☐ 1. Document ID: US 6738821 B1

L2: Entry 1 of 18 File: USPT May 18, 2004

DOCUMENT-IDENTIFIER: US 6738821 B1
TITLE: Ethernet storage protocol networks

Brief Summary Text (21):
The advantages of the present invention are many and substantial. Most notably, the Ethernet storage protocol (ESP) of the present invention simplifies the communication elements needed to transfer data over a network and enables nearly unlimited scaleablity. The ESP preferably implements a simple transport protocol (STP) that requires less CPU processing than conventional TCP. It is estimated that CPU utilization for networks using ESP may be as small as 1/5 of networks using TCP. In a more preferred embodiment, the ESP will be implemented primarily using hardware and simple software drivers in order to further limit CPU requirements. The ESP also preferably takes advantage of a storage encapsulation protocol (SEP) which is configured to encapsulate portions of storage data, such as SCSI data, ATAPI data, UDMA data, etc. In communication, senders and targets establish communication sessions by exchanging handles, which are used to identify the senders and targets in subsequent communication transactions. Once a session is open, the session preferably will remain open for the entire time the target and host are connected to the ESP network. Another advantage of the present invention is that Ethernet frames are counted to determine whether packets have successfully been transferred. This is substantially more efficient than prior art techniques utilizing TCP, which rely on byte counting and complicated time-out calculations.

Drawing Description Text (19):
FIG. 4C illustrates an encapsulation technique for parallel SCSI phases for use on serial protocols, in accordance with one embodiment of the present invention.

Detailed Description Text (4):
In one embodiment, the transported data will be in the form of SCSI data, which is encapsulated for communication using a storage encapsulation protocol (SEP). In another embodiment, the transported data can be ATAPI data, UDMA data, or any other data that can benefit from the efficient network communication of the ESP of the present invention.

Detailed Description Text (36):
FIG. 4B defines a table that illustrates the SCSI phase definitions as well as the information transferred definitions used in FIG. 4A. FIG. 4C illustrates an encapsulation technique for parallel SCSI phases for use on serial protocols. An SEP header is added to each segment of information to identify the type of information (i.e., which phase it comes from), that the segment carries. In other embodiments, for commonly occurring information pairs such as command plus write data and read data plus status, a single header can be shared by defining a special paired type. Because tag commands are typically used, requiring a tag message phase

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with each command, status, or data phase, the tag is combined with the header. By using a separate session for LUN (for those devices which have multiple LUNs), the LUN and SCSI ID information is implicit in the choice of session over which the encapsulated SCSI is sent.

Detailed Description Text (52):
The simple transport protocol (STP) will now be described with reference to exemplary SCSI transactions. STP provides a low overhead, LAN-oriented transport to efficiently and reliably move blocks of data to and from target devices. As described above, the host computers should have a PIC to enable communication in accordance with the ESP and the target devices should be native ESP devices. Alternatively, the target devices can be off-the-shelf devices that can gain access to the ESP network by way of a bridge circuit 131, as described with reference to FIG. 1C. Also important to note is that STP can either be used alone without IP for some small LAN environments and in other cases STP can be run over IP for larger LAN environments or communications over routers and the Internet. In a preferred embodiment, where SCSI data is being moved, STP will move SCSI data that has been serialized and encapsulated using the described SEP protocol.

☐ 2. Document ID: US 6683883 B1

L2: Entry 2 of 18 File: USPT Jan 27, 2004

DOCUMENT-IDENTIFIER: US 6683883 B1
TITLE: ISCSI-FCP gateway

Brief Summary Text (6):
An Internet SCSI (iSCSI) protocol has been developed by the Internet Engineering Task Force (IETF) to enable SCSI clients and I/O devices to communicate with no limitations on distance between the components. A draft of the protocol can be found at http://ietf.org/internet-drafts/draft-ietf-ips-iscsi-08.txt, and is incorporated herein by reference. The iSCSI protocol encapsulates SCSI commands by representing them as serial strings of bytes preceded by iSCSI headers. The strings of bytes with iSCSI headers, termed Protocol Data Units (PDUs), are formed into TCP/IP packets which are transmitted in a TCP/IP network.

☐ 3. Document ID: US 6651117 B1

L2: Entry 3 of 18 File: USPT Nov 18, 2003

DOCUMENT-IDENTIFIER: US 6651117 B1
TITLE: Network stack layer interface

Parent Case Text (2):
This application claims priority from: (1) U.S. Provisional Patent Application No.

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60/163,266, filed Nov. 3, 1999, entitled "SCSI OVER ETHERNET," (2) U.S. Provisional Patent Application No. 60/189,639, filed Mar. 14, 2000, entitled "ETHERNET STORAGE PROTOCOLS FOR COMPUTER NETWORKS," and (3) U.S. Provisional Patent Application No. 60/201,626, filed May 3, 2000, entitled "SCSI ENCAPSULATION PROTOCOL." Each of these provisional applications is herein incorporated by reference.

☐ 4. Document ID: US 6591207 B2

L2: Entry 4 of 18 File: USPT Jul 8, 2003

DOCUMENT-IDENTIFIER: US 6591207 B2
TITLE: Semiconductor production system

Brief Summary Text (4):
The storage area network is an independent network which is constructed of only storages, devices for storing data, by separating the storages from a server. Examples of such storage area networks include those networks based on such links as a fiber channel (one of serial interface standards) described in WO 00/18049 and WO 00/17769 and an optical fiber described in WO 00/2954. The storage area network is a general term for networks that link storage devices independently of the kind of communication devices used. A link of storage devices through a serial bus as defined in IEEE1394 and a link of storage devices through a switched bus as defined by InfiniBand (registered trade name) are storage area networks. However, Ethernet which handles storage protocol, such as iSCSI (registered trade name) and SEP (SCSI Encapsulation Protocol), is the storage area networks.

☐ 5. Document ID: US 6493750 B1

L2: Entry 5 of 18 File: USPT Dec 10, 2002

DOCUMENT-IDENTIFIER: US 6493750 B1
TITLE: Command forwarding: a method for optimizing I/O latency and throughput in fibre channel client/server/target mass storage architectures

Detailed Description Text (16):
The next high level section 308, called the data payload, contains the actual data packaged within the FC frame. The data payload contains data and encapsulating protocol information that is being transferred according to a higher-level protocol, such as IP and SCSI. FIG. 3 shows four basic types of data payload layouts 326-329 used for data transfer according to the SCSI protocol. The first of these formats 326, called the FCP_CMND, is used to send a SCSI command from an initiator to a target. The FCP_LUN field 330 comprises an 8-byte address that may, in certain implementations, specify a particular SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a logical unit number ("LUN") corresponding to a logical device associated with the specified target SCSI device

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that together represent the target for the FCP_CMND. In other implementations, the FCP_LUN field 330 contains an index or reference number that can be used by the target FC host adapter to determine the SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a LUN corresponding to a logical device associated with the specified target SCSI device. An actual SCSI command, such as a SCSI read or write I/O command, is contained within the 16-byte field FCP_CDB 332.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 6. Document ID: US 6477139 B1

L2: Entry 6 of 18 File: USPT Nov 5, 2002

DOCUMENT-IDENTIFIER: US 6477139 B1
TITLE: Peer controller management in a dual controller fibre channel storage enclosure

Detailed Description Text (16):
The next high level section 308, called the data payload, contains the actual data packaged within the FC frame. The data payload contains data and encapsulating protocol information that is being transferred according to a higher-level protocol, such as IP and SCSI. FIG. 3 shows four basic types of data payload layouts 326-329 used for data transfer according to the SCSI protocol. The first of these formats 326, called the FCP_CMND, is used to send a SCSI command from an initiator to a target. The FCP_LUN field 330 comprises an 8-byte address that may, in certain implementations, specify a particular SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a logical unit number ("LUN") corresponding to a logical device associated with the specified target SCSI device that together represent the target for the FCP_CMND. In other implementations, the FCP_LUN field 330 contains an index or reference number that can be used by the target FC host adapter to determine the SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a LUN corresponding to a logical device associated with the specified target SCSI device. An actual SCSI command, such as a SCSI read or write I/O command, is contained within the 16-byte field FCP_CDB 332.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 7. Document ID: US 6470397 B1

L2: Entry 7 of 18 File: USPT Oct 22, 2002

DOCUMENT-IDENTIFIER: US 6470397 B1
TITLE: Systems and methods for network and I/O device drivers

Detailed Description Text (6):
In one embodiment of the present invention, the cluster storage protocol is a SCSI protocol, such as SCSI II, while the network protocol is the Internet Protocol (IP). In one embodiment, the communication link 110 connecting the various cluster systems or "nodes" is a Fibre Channel Loop (FCL). Fibre Channel is a high-speed

data transfer interface technology that advantageously maps common transport protocols, such as SCSI and IP. Thus, using Fibre Channel technology, it is possible to merge high-speed I/O, such as SCSI, and networking functionality in a single connectivity technology. However, alternative embodiments can use other bus technologies, such as a SCSI bus, to run both I/O and networking protocols on a common link. Thus, in one embodiment, the network and storage packets are transferred between computer systems using standard network and I/O protocols, such as the IP and SCSI protocols. This embodiment may be used when the HBA, such as one based on the QLogic ISP2200, supports both IP and SCSI protocols. In another embodiment, if the HBA supports the SCSI protocol, but not the IP protocol, the network packets are encapsulated in SCSI packets or commands. In the "encapsulation" embodiment, the HBA may support the SCSI target mode, as well as the more typical initiator mode, thereby allowing the HBA to receive SCSI packets encapsulating IP packets.

Detailed Description Text (58):
The embodiment where network and storage packets are transferred between computer systems using standard IP and SCSI protocols, rather than by encapsulating IP packets in SCSI packets, will now be described. The data structures and routines for this embodiment are similar to the data structures and routines for the "encapsulation" embodiment described above, with the following modifications. In general, the modifications enable the NDIS miniport driver 502 and the HBA processor to send network unencapsulated IP packets and the associated scatter/gather lists to be sent to the HBA processor. Furthermore, the modifications allow the receive buffers to be immediately pushed onto the HBA processor receive buffer queue, rather than having the enhanced SCSI miniport 508 get the receive buffers from the enhanced NDIS miniport 502 when requested. The modifications help take advantage of HBAs that support both network and I/O protocols.

☐ 8. Document ID: US 6470382 B1

L2: Entry 8 of 18 File: USPT Oct 22, 2002

DOCUMENT-IDENTIFIER: US 6470382 B1
TITLE: Method to dynamically attach, manage, and access a LAN-attached SCSI and netSCSI devices

Brief Summary Text (10):
Bus 114 of FIG. 1 could be a non-SCSI network, such as the FC link. An FC network has features that allow new devices to be recognized and mapped to SCSI operations automatically. However, this address mapping method is only a rudimentary mapping of the SCSI ID to the FC address. Additionally, special configuration SCSI devices, specifically SCSI-3 devices, would be required for automatic addition and removal capability on network 100. Thus, SCSI devices 102, 104, and 106 would be SCSI-3 configuration. Furthermore, the FC network mapping is not applicable to a LAN or IP network. Hence, a need arises for a method and apparatus to allow SCSI devices to be attached to the LAN, be recognized by the hosts/clients and other SCSI devices on the same LAN or IP network automatically, and for the LAN/IP address of the netSCSI device to be bound to a logical SCSI ID. An additional need exists to allow the use of standard SCSI devices on a network such that backwards compatibility is maintained. If such a network for SCSI devices existed, a further need would exist for a protocol in which to encapsulate data and SCSI commands)into a coherent

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network-compatible packet.

Brief Summary Text (11):
In summary, a need exists for a method and apparatus for accommodating more SCSI devices on a bus and for placing them at greater distances on the bus than would be feasible with a conventional SCSI bus. Hence, a need arises for a method and apparatus for attaching and managing SCSI devices on a network. Hence, a need arises for a network system and method to automatically and dynamically attach, manage, and configure a netSCSI device on the network itself. Also, a need exists for a method and apparatus for dynamically addressing SCSI devices that would automatically avoid address conflicts when installing new devices and when the bus is broken. Furthermore, a need arises for a method and apparatus to allow SCSI devices to be attached to the LAN, be recognized by the hosts/clients and other SCSI devices on the same LAN or IP network automatically, and for the LAN/IP address of the netSCSI device to be bound to a logical SCSI ID. An additional need exists to allow the use of standard SCSI devices on a network such that backwards compatibility is maintained. Finally, a need exists for a protocol in which to encapsulate data and SCSI commands into a coherent network-compatible packet. The present invention provides a unique and novel solution that meets all the above needs.

Detailed Description Text (80):
In conclusion, the present invention provides a method and apparatus for accommodating more SCSI devices on a bus and for placing them at greater distances on the bus than would be feasible on a conventional SCSI bus. The present invention also provides a method and apparatus for dynamically addressing SCSI devices automatically to avoid address conflicts. Additionally, the present invention provides a network system and configuration that can accommodate peripherals independent from the server that can be placed on the network. Furthermore, the present invention provides a method and apparatus that allows SCSI devices to be attached to the LAN, be recognized by the hosts/clients and other SCSI devices on the same LAN or IP, network automatically, and for the LAN/IP address of the netSCSI device to be bound to a logical SCSI ID. The present invention also allows the use of standard SCSI devices on a network such that backwards compatibility is maintained. Finally, the present invention provides a protocol in which to encapsulate data and SCSI commands into a coherent network-compatible packet.

☐ 9. Document ID: US 6470026 B1

L2: Entry 9 of 18 File: USPT Oct 22, 2002

DOCUMENT-IDENTIFIER: US 6470026 B1
TITLE: Fibre channel loop map initialization protocol implemented in hardware

Detailed Description Text (16):
The next high level section 308, called the data payload, contains the actual data packaged within the FC frame. The data payload contains data and encapsulating protocol information that is being transferred according to a higher-level protocol, such as IP and SCSI. FIG. 3 shows four basic types of data payload layouts 326-329 used for data transfer according to the SCSI protocol. The first of these formats 326, called the FCP_CMND, is used to send a SCSI command from an initiator to a target. The FCP_LUN field 330 comprises an 8-byte address that may, in certain implementations, specify a particular SCSI-bus adapter, a target device

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associated with that SCSI-bus adapter, and a logical unit number ("LUN") corresponding to a logical device associated with the specified target SCSI device that together represent the target for the FCP_CMND. In other implementations, the FCP_LUN field 330 contains an index or reference number that can be used by the target FC host adapter to determine the SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a LUN corresponding to a logical device associated with the specified target SCSI device. An actual SCSI command, such as a SCSI read or write I/O command, is contained within the 16-byte field FCP_CDB 332.

☐ 10. Document ID: US 6463498 B1

L2: Entry 10 of 18 File: USPT Oct 8, 2002

DOCUMENT-IDENTIFIER: US 6463498 B1
TITLE: Transmission of FCP response in the same loop tenancy as the FCP data with minimization of inter-sequence gap

Detailed Description Text (15):
The next high level section 308, called the data payload, contains the actual data packaged within the FC frame. The data payload contains data and encapsulating protocol information that is being transferred according to a higher-level protocol, such as IP and SCSI. FIG. 3 shows four basic types of data payload layouts 326-329 used for data transfer according to the SCSI protocol. The first of these formats 326, called the FCP_CMND, is used to send a SCSI command from an initiator to a target. The FCP_LUN field 330 comprises an 8-byte address that may, in certain implementations, specify a particular SCSI-bus adapter, a target device associated with that SCSI-bus adapter., and a logical unit number ("LUN") corresponding to a logical device associated with the specified target SCSI device that, together represent the target for the FCP_CMND. In other implementations, the FCP_LUN field 330 contains an index or reference number that can be used by the target FC host adapter to determine the SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a LUN corresponding to a logical device associated with the specified target SCSI device. An actual SCSI command, such as a SCSI read or write I/O command, is contained within the 16-byte field FCP_CDB 332.

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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Term	Documents
SCSI	11019
SCSIS	50
PROTOCOL	112851
PROTOCOLS	72817
ENCAPSULAT$	0

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ENCAPSULAT	5
ENCAPSULATABILITY	3
ENCAPSULATABLE	69
ENCAPSULATANT	1
ENCAPSULATANTS	2
ENCAPSULATATED	1
((ENCAPSULAT$ WITH SCSI WITH PROTOCOL)).USPT.	18

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Search Results - Record(s) 11 through 18 of 18 returned.

☐ 11. Document ID: US 6389432 B1

L2: Entry 11 of 18 File: USPT May 14, 2002

DOCUMENT-IDENTIFIER: US 6389432 B1
**** See image for Certificate of Correction ****
TITLE: Intelligent virtual volume access

Detailed Description Text (21):
FC-4, the highest level in the FC structure defines the application interfaces that can execute over Fibre Channel. It specifies the mapping rules of upper layer protocols using the FC levels below. Fibre Channel is equally adept at transporting both network and channel information and allows both protocol types to be concurrently transported over the same physical interface using a channel function 242 and a network function 244. The following network and channel protocols may be supported: Small Computer System Interface (SCSI); Intelligent Peripheral Interface (IPI); High Performance Parallel Interface (HIPPI) Framing Protocol; Internet Protocol (IP); ATM Adaptation Layer for computer data (AAL5); Link Encapsulation (FC-LE); Single Byte Command Code Set Mapping (SBCCS); and IEEE 802.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 12. Document ID: US 6336157 B1

L2: Entry 12 of 18 File: USPT Jan 1, 2002

DOCUMENT-IDENTIFIER: US 6336157 B1
TITLE: Deterministic error notification and event reordering mechanism provide a host processor to access complete state information of an interface controller for efficient error recovery

Detailed Description Text (16):
The next high level section 308, called the data payload, contains the actual data packaged within the FC frame. The data payload contains data and encapsulating protocol information that is being transferred according to a higherlevel protocol, such as IP and SCSI. FIG. 3 shows four basic types of data payload layouts 326-329 used for data transfer according to the SCSI protocol. The first of these formats 326, called the FCP_CMND, is used to send a SCSI command from an initiator to a target. The FCP_LUN field 330 comprises an 8-byte address that may, in certain implementations, specify a particular SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a logical unit number ("LUN") corresponding to a logical device associated with the specified target SCSI device that together

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represent the target for the FCP_CMND. In other implementations, the FCP_LUN field 330 contains an index or reference number that can be used by the target PC host adapter to determine the SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a LUN corresponding to a logical device associated with the specified target SCSI device. An actual SCSI command, such as a SCSI read or write I/O command, is contained within the 16-byte field FCP_CDB 332.

☐ 13. Document ID: US 6314477 B1

L2: Entry 13 of 18 File: USPT Nov 6, 2001

DOCUMENT-IDENTIFIER: US 6314477 B1
TITLE: Performance of fibre channel protocol sequence reassembly using expected frame information and buffer list calculations

Detailed Description Text (17):
The next high level section 308, called the data payload, contains the actual data packaged within the FC frame. The data payload contains data and encapsulating protocol information that is being transferred according to a higher-level protocol, such as IP and SCSI. FIG. 3 shows four basic types of data payload layouts 326-329 used for data transfer according to the SCSI protocol. The first of these formats 326, called the FCP_CMND, is used to send a SCSI command from an initiator to a target. The FCP_LUN field 330 comprises an 8-byte address that may, in certain implementations, specify a particular SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a logical unit number ("LUN") corresponding to a logical device associated with the specified target SCSI device that together represent the target for the FCP_CMND. In other implementations, the FCP_LUN field 330 contains an index or reference number that can be used by the target FC host adapter to determine the SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a LUN corresponding to a logical device associated with the specified target SCSI device. An actual SCSI command, such as a SCSI read or write I/O command, is contained within the 16-byte field FCP_CDB 332.

☐ 14. Document ID: US 6260079 B1

L2: Entry 14 of 18 File: USPT Jul 10, 2001

DOCUMENT-IDENTIFIER: US 6260079 B1
TITLE: Method and system for enhancing fibre channel loop resiliency for a mass storage enclosure by increasing component redundancy and using shunt elements and intelligent bypass management

Detailed Description Text (17):
The next high level section 308, called the data payload, contains the actual data packaged within the FC frame. The data payload contains data and encapsulating

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protocol information that is being transferred according to a higher-level protocol, such as IP and SCSI. FIG. 3 shows four basic types of data payload layouts 326-329 used for data transfer according to the SCSI protocol. The first of these formats 326, called the FCP_CMND, is used to send a SCSI command from an initiator to a target. The FCP_LUN field 330 comprises an 8-byte address that may, in certain implementations, specify a particular SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a logical unit number ("LUN") corresponding to a logical device associated with the specified target SCSI device that together represent the target for the FCP_CMND. In other implementations, the FCP_LUN field 330 contains an index or reference number that can be used by the target FC host adapter to determine the SCSI-bus adapter, a target device associated with that SCSI-bus adapter, and a LUN corresponding to a logical device associated with the specified target SCSI device. An actual SCSI command, such as a SCSI read or write I/O command, is contained within the 16-byte field FCP_CDB 332.

☐ 15. Document ID: US 6199112 B1

L2: Entry 15 of 18 File: USPT Mar 6, 2001

DOCUMENT-IDENTIFIER: US 6199112 B1
TITLE: System and method for resolving fibre channel device addresses on a network using the device's fully qualified domain name

Detailed Description Text (6):
Storage routers 16 and 18 include a processor for executing software programs and memory for storing software programs and data files. The storage router used in conjunction with the present invention must support at least two protocols on its Fibre Channel interface connected to the storage area network: Fibre Channel Protocol (which is SCSI encapsulated over fibre channel), which can be used by the host computer to discover and communicate with SCSI storage devices attached to the storage router, and Address Resolution Protocol (ARP)/Fibre Channel Address Resolution Protocol (FARP), which can be used by the host to discover the location, or fibre channel address, of the storage router.

☐ 16. Document ID: US 6151331 A

L2: Entry 16 of 18 File: USPT Nov 21, 2000

DOCUMENT-IDENTIFIER: US 6151331 A
TITLE: System and method for providing a proxy FARP for legacy storage devices

Detailed Description Text (6):
Storage router 18 used in conjunction with the present invention must support Fibre Channel Protocol (which is SCSI encapsulated over fibre channel), which can be used by the host computer to discover and communicate with SCSI storage devices attached

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to the storage router, and Address Resolution Protocol (ARP), which can be used by the host to discover the location, or fibre channel address, of the storage device. Storage router 18 includes a processor and a storage medium or memory. The storage router 18 for use with the present invention also includes a node name discovery software program 24 resident on the storage medium that, when executed, will travel the arbitrated loop 16 and record the node name and arabitrated loop port address AL.sub.-- PA for storage devices 20 and 30 in a look-up table 22. The storage router 18 also includes a FARP request software program 26 resident on the storage medium that, when executed, will send a FARP request from the storage router 18 to determine which storage devices attached to the storage router 18 are FARP compatible and record that information in the look-up table 22. Storage router 18 also includes a proxy FARP software program 28 resident on the storage medium that, when executed, will act as a proxy and respond to FARP requests for storage devices that are not FARP capable. It should be understood that the node name discovery software program 24, the FARP request software program 26, and the proxy FARP software program 28 could be included in a single software program.

☐ 17. Document ID: US 6018779 A

L2: Entry 17 of 18 File: USPT Jan 25, 2000

DOCUMENT-IDENTIFIER: US 6018779 A
TITLE: System for encapsulating a plurality of selected commands within a single command and transmitting the single command to a remote device over a communication link therewith

Detailed Description Text (36):
Though the SCSI protocol was used in the embodiments described above, the concepts disclosed herein can be applied to other I/O protocols in which it is possible to encapsulate multiple I/O commands in a single existing command.

☐ 18. Document ID: US 5959994 A

L2: Entry 18 of 18 File: USPT Sep 28, 1999

DOCUMENT-IDENTIFIER: US 5959994 A
TITLE: ATM/SONET network enhanced as a universal computer system interconnect

Brief Summary Text (19):
The serial SCSI protocol that is supported by Fibre Channel is known through the name, "Fibre Channel Protocol for SCSI", or the aliases, "SCSI Fibre Channel Protocol", or "FCP". The document entitled, the "Fibre Channel Protocol for SCSI", describes the SCSI packet formats, for SCSI Command, Data, and Status packets, as well as the SCSI protocol, pertinent to performing SCSI operations over Fibre Channel. In a purely Fibre Channel environment, SCSI packets are transported as

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payloads encapsulated within Fibre Channel packets, and the SCSI protocol is usually implemented either in software, or through hardware assists. During the discussion of this patent, SCSI Fibre Channel protocol will be referred to as, "the FCP SCSI Protocol" so as to assist the readers in disassociating the upper level protocol for transacting SCSI operations over Fiber Channel, from the Fibre Channel Protocol proper.

Term	Documents
SCSI	11019
SCSIS	50
PROTOCOL	112851
PROTOCOLS	72817
ENCAPSULAT$	0
ENCAPSULAT	5
ENCAPSULATABILITY	3
ENCAPSULATABLE	69
ENCAPSULATANT	1
ENCAPSULATANTS	2
ENCAPSULATATED	1
((ENCAPSULAT$ WITH SCSI WITH PROTOCOL)).USPT.	18

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